should be. The methods of transliteration used in Germany and France differ so much from one another, and both from the English, that it seemed hardly possible, however desirable, to get one system adopted for the three languages.

In regard to Baron Osten-Sacken's other points, we regard *tch* and *stch* as inadvisable for ч and щ respectively, as, without the use of brackets, they would be mistaken for other sequences; and it was generally agreed that brackets should only be used as a very last resource. Finally, *æ* for the rare and practically extinct Ѣ is as good a phonetic equivalent as anything else, and more convenient than the already overburdened *y*.

(3) We cordially agree with the main point in Mr. Chisholm's argument (NATURE, May 1, p. 6), viz. that different systems are required for different purposes. The phonetic method adopted by the Geographical Society is unquestionably the best suited for their maps, but is quite inadequate for bibliographic use. We are glad to see that the system proposed for the latter purpose has Mr. Chisholm's approval.

(4) Mr. Groves (NATURE, May 1, p. 6) quotes a case that strikes him as very cumbrous; but we fail to see that the alteration to SKRJIPSKY is a sufficient improvement to be worth the inconveniences that the changes would involve in other cases. Under no system could a page of transliterated Russian hope to read like Addisonian English.

We do not see that, in the cases we quoted in our reply to Mr. Groves's former letter, we really misunderstood him. We do not know whence or how the three Gazetteers derived their renderings of Nizhniĭ; we only quoted them to show how many different spellings were current, and that the word, as transliterated by the new system, is neither unintelligible nor materially different from forms already in use. In the cases to which we attached most weight, viz. the titles of journals quoted from Scudder, Bolton, and the *Geological Record* the transliterations were certainly derived direct from the Russian, and we thought it probable that the Chemical Society's Journal would also have quoted the papers from the original rather than from second-hand German sources.

In conclusion, it is advisable again to repeat that the system was proposed solely for bibliographic use in the English language: the bibliographers who laid down the requirements of the system insisted that it should be based on two principles and should satisfy four rules. Had these been published in the original note, some subsequent criticisms would probably not have been made. Considering that the criticisms that really apply to this non-phonetic, unæsthetic system do not require any changes to be made in it, we hope that it will be adopted by other journals and catalogues. A supplementary list of those that do so will be published in the fuller account and explanation of the system that will be issued shortly.

H. A. MIERS.
J. W. GREGORY.

Discovery of a New Comet.

WHILE sweeping the northern sky at 11h. 35m. on the night of July 23, with a 10-inch reflector, power 40, I found a nebulous object near θ and ζ Ursæ Minoris, which I could not identify. It was faint, round, about 1′ in diameter, and with a very slight central condensation. I noted its position relatively to the stars near, but clouds then came over and prevented further observations for nearly an hour. On reobserving the object I found it to be a comet, a considerable displacement having occurred in its position.

On July 24 I obtained another view of it, and found its diurnal motion to be about 55′ to the south. At 11h. the comet was close to a star of about the ninth magnitude. At 11h. 40m. the comet was centrally projected upon the star, and the latter appeared to be involved in an extensive atmosphere. At about 12h. 30m. the comet reappeared on the other side of the star. I could not resist the impression that the star was decidedly fainter when the comet was passing over it.

The rough estimated positions of the comet were:—

	h.		°	°
July 23,	12	... ...	228	+ 78
,, 24,	12	... ...	228	+ 77

On July 25 and 26 the sky was cloudy and the comet not seen. It will be invisible during moonlight, but on about August 5 or 6 it ought to be picked up before moonrise in the region between γ Ursæ Minoris and ι Draconis, or at about 226° + 66°.

It is probable that this comet is approaching its perihelion and becoming brighter, in which case it may be readily seen when the sky is clear and free from moonlight.

Bristol, July 27. W. F. DENNING.

P.S.—The comet was observed at Nice on July 25, 10h., when its R.A. was 15h. 14m. (228½°), Decl. 76° 37′ N.

The Rotation of Mercury.

IN the February number of *Himmel und Erde*, and elsewhere, I have seen "that the otherwise meritorious, but in his observations and their discussion not always cautious and strict Schroeter," took the rotation period of Mercury to be twenty-four hours, but that Schiaparelli has now found that Mercury behaves to the sun as the moon to the earth, always showing the same side. The reporter also explained, by way of compliment to Prof. G. Darwin, why the planet next to the sun should differ in this respect from its companions.

As all astronomers like fair play, I went through Schroeter's papers, and read Schiaparelli's letter, No. 2944, *Astronomische Nachrichten*, which shows the usual industry, lucidity of style, and good faith of the Professor.

Schroeter and his companion Harding found the southern hemisphere of the planet rounded (*rundlich*) like the northern, but believed that they saw every twenty-four hours a certain change of form of the southern end of the lighted crescent, not perceptible in the northern. This was the leading observation, of which Schiaparelli remarks: "Of all facts known with regard to Mercury's rotation, this reappearance about every twenty-four hours of a truncation of the southern horn is the most manifest and anciently known" ("un apparente troncatura del corno australe è il più manifesto e anticamente cognosciuto").

Schroeter and Harding had for some time tried in vain to trace on the face of the planet some spot confirming their conclusion, when one day Harding first and Schroeter afterwards perceived a dark streak appearing in the east and moving west over the face of the planet. Both observed the phenomenon, with varying distinctness and under different combinations, during many days, and held that it confirmed their original hypothesis. Schroeter found that considerable increase of the magnifying power of his instrument lessened the distinctness of the shading.

Schiaparelli commenced his investigation because he considered Schroeter's result doubtful, and had instruments far superior to those used ninety years ago.

He has observed Mercury since 1881 more than 500 times, and has made on the most favourable days about 150 drawings, "to say the truth of very unequal value, but nevertheless so far agreeing as to furnish a result." That is, drawings on which the admittedly indistinct and varying feeble shadings united into one dissolving view did not always appear to be the same. The author also tells us that he made "one of his best observations when the planet was only at 3° 2′ from the limb of the sun," and "the disk of the planet then appeared perfectly round and uniformly bright;" and finally confesses, "Of these forms and streaks I have endeavoured to give an idea on the annexed drawing without concealing from myself the futility of such an attempt."

The Professor first made use of his "eight-inch instrument," then of "the eighteen," which showed the shading less distinctly, so as to make him write, "I have the impression that if one looked with a still stronger instrument all would appear dissolved in still more minute formations."

He lastly formulates three hypotheses: (1) the period is 24 hours; (2) the period divides the 24 hours without remainders; (3) there is no rotation properly speaking. He adopts No. 3, and concludes that the different appearances are caused by the great libration consequent upon the large eccentricity of its orbit.

Should there be no farther hypotheses possible, when the results of research are so conflicting, indistinct, and variable?

R.

Birds and Flowers.

IN reference to Mr. Wallace's letter (p. 295) with regard to a note in NATURE (July 17, p. 279), I correctly quoted Mr. Scott-Elliot's remark, who says:—

"I am led to entirely disagree with Mr. Wallace's opinion that the colour of flower-seeking birds is quite unconnected with their habits. As a matter of fact a peculiar shade of red found

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on the breast of *Cinnyris chalybea, C. afra, C. famosa, C. sonimanga,* and *C. bicollaris* is exactly the same as that which I found in the majority of ornithophilous flowers in South Africa. It is, moreover, not a common colour in flowers; and since Labiatæ, Aloes, Irids, and Leguminosæ all assume it when they become ornithophilous, some reason must be shown why the simple explanation given by Darwin should be set aside while no other is offered."

THE WRITER OF THE NOTE.

CHELSEA BOTANIC GARDEN.

THE physic garden at Chelsea covers an area of between three and four acres. It stands by the side of the Thames at the east end of Cheyne Walk, opposite Battersea Park, a short distance west of Chelsea Hospital. On three sides it is inclosed by a high brick wall, and on the fourth you look through iron railings on to the Thames Embankment and the river. Within this area there are a dwelling-house, rooms for the gardeners, a large lecture-room, and four conservatories, and the rest is laid out in walks, flower-beds, and grassy interspaces. It is now too much surrounded by houses for trees to prosper, but one of the cedars of Lebanon planted in 1683 still survives. Amongst the others may be seen, or were until lately, well-grown examples of Oriental plane, Salisburia, Wistaria, hawthorn, black walnut, black mulberry, and many others. One of the most striking features of the garden is a large bed of yuccas on the north. It contains one of the finest collections of the different species and hybrids of rhubarb to be found anywhere in the country. The most valuable portion of its contents is a collection of between 300 and 400 hardy plants and shrubs, which are or have been used in medicine. These are arranged, shrubs and herbaceous plants intermixed, according to the system of Jussieu and De Candolle. There is a smaller collection arranged after the system of Lindley, who for many years directed the garden and gave the lectures. From these are sent up the plants which are required for the examinations which are held in the old hall of the Company near Blackfriars Bridge. Against the wall that flanks the garden on the east are nailed the fig and other tender shrubs, and beneath there is a narrow border containing Ferula, Verbascum, Acanthus, the fibre-yielding Chinese and Indian *Boehmeria nivea*, and a crowd of other herbaceous plants. In the centre of the garden there is a statue of Sir Hans Sloane, and a tank full of buckbean and water violet, surrounded by rockwork on which grow saxifrages, Hieracia, and spiny Astragali. South of the main walk that cuts the garden into two halves are beds full of non-medicinal plants, arranged in natural orders, another tank full of water lilies, bur-reeds, and bulrushes, and south of all have lately been laid out a couple of beds containing types of the twenty natural orders a knowledge of which is required for the elementary examination of the Science and Art Department. The present rainy season has suited the garden capitally, and during many years' acquaintance with it the writer of this article has never seen the herbaceous plants look more luxuriant than they do at the present time.

It would take up more space than we can spare to say even a few words about each of the distinguished botanists who have been connected with the garden. Here was laid the foundation of the classical "Gardener's Dictionary" of Philip Miller, which was first published in 1731, ran through eight editions in his life-time, has been translated into German, French, and Dutch, and formed the foundation and model of the many gardeners' dictionaries that have since been written. Amongst the well-known botanists of older date who were more or less connected with the garden, were Doody, Petiver, Hudson, Rand, and Alchorne, and in later times Lindley, Fortune, Thomas Moore, Curtis, Anderson, and David Don. Full particulars about all these will be found in Field's history of the garden, published in 1820, and a second edition, considerably enlarged, published by Dr. Semple in 1878.

The ground was originally taken by the Apothecaries' Company in 1673, as a spot on which to build a convenient house for their ornamental barge. In 1674 a wall was built round the open space, and the cultivation of medicinal plants commenced. At first the ground was rented, at a nominal sum, from Lord Cheyne, who was then lord of the manor of Chelsea. In 1712 the property was purchased by Dr. (afterwards Sir Hans) Sloane. In 1722, Sir Hans Sloane granted the use of the ground in perpetuity to the Apothecaries' Company at a yearly rent of £5, to the end, says the deed, "that the said garden may at all times hereafter be continued as a physic garden, and for the better encouraging and enabling the said Society to support the charge thereof, for the manifestation of the power, wisdom, and glory of God in the works of the creation, and that their apprentices and others may better distinguish good and useful plants from those that bear resemblance to them that are hurtful." If these conditions are not fulfilled by the Apothecaries, the garden reverts to the Royal Society on the same terms, and if they fail to fulfil them it falls to the College of Physicians. Under this deed the Society of Apothecaries has now held the garden for 170 years, during which time, of course, the land has greatly increased in value.

At the present time the garden is used for botanical purposes by four classes of students:—

Firstly, those who are going up for the preliminary examination of the Apothecaries' Company, in which materia medica is one of the principal subjects. This examination, we understand, is often taken by those who seek places as chemists and druggists, and who do not intend to proceed to the L.S.A. Secondly, the ladies who compete for the silver medal which has lately been offered annually by the Apothecaries' Company. Thirdly, pharmaceutical students. One of the largest private pharmaceutical schools is situated in the neighbourhood. Fourthly, students who are intending to go up for the botanical examinations of the Science and Art Department. For this there have been about 3000 entries per annum for many years, and 25 per cent. of the marks (30 per cent. being a second class pass) are allotted for a description of a plant and a diagnosis of its natural order. Probably we should be justified in estimating that a quarter of these 3000 candidates live in London, and cannot get living specimens to study without undertaking a railway journey, and of course it is only fair to assume that those who have passed their examination will continue to take an interest in the science, particularly as many of them teach botany in elementary schools. It is only the first and second of these four classes of students who have any direct claim on the Apothecaries' Company, but they have always construed liberally the "others" mentioned in Sir Hans Sloane's deed. Last year the number of admissions by students' tickets, as registered in the visitors' book, was 3000. A course of twelve lectures and demonstrations have been given for many years in summer by Mr. J. G. Baker, and at these the annual attendance ranges from 550 to 700, or an average of 50 or 60 students to each lecture.

The Society of Apothecaries have given no public intimation that they are dissatisfied with the present condition of things, but they bear the whole expense of keeping up the garden, and reap only a share of the benefit. A Committee has been appointed by the Royal Society to consider their position in the matter; and last week a meeting was held in the Town Hall at Chelsea, at which Lord Meath presided and Prof. Flower was one of the

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